Preliminary Report to the National Geospatial Advisory Committee

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About the GeoGov Summit

- Theme: Advancing the Nation's Geospatial Infrastructure in Partnership for National Development
- Focus on continuing and broadening forward looking G2G and G2B dialog on strategy and needs related to the future of the U.S. National Geospatial Infrastructure for National Development.
- Planning workshop January 2023 – engaged 40+ federal, state, local, NGO, industry and academic leaders in developing GeoGov Summit theme, program agenda focus.
- Virtual planning sessions into Summer 2023
- Summit convened 6-8 September
  - 170+ attendees
  - Government, Industry, NGOs, Academia and Research
- Post event report in progress, available by late October 2023

Program Agenda

- Pre-Conference Roundtable Sessions
  - IGIF and GKI: Aligning a Global Framework and Strategy for National Development
  - Attracting and Enabling the Geospatial Workforce of the Future
  - Preparing for National Spatial Reference System Modernization
  - Taking Advantage of Innovation and FAIR Principles

- Plenary Sessions
  - Keynote: Dr Satyam Priyadarshy on AI Futures
  - Panel: The Power of National Geospatial Infrastructure in Meeting the Needs of the Nation
  - Panel: Formulating the National Geospatial Strategic in a Time of Rapid Change and Challenges
  - Panel: Revisiting National Government
  - Keynote: Dr. Julie Robinson, NASA: The Role of Space Economy In Advancing National Geospatial Infrastructure
  - Fireside Chat with Jack Dangermond
  - Panel: Expanding Role of Industry in the National Geospatial Strategy and Infrastructure
  - Panel: Simplifying Complexity Through Innovation and Automation for Actionable Insight
  - Panel: Impact of National Geospatial Strategy on the Global Front

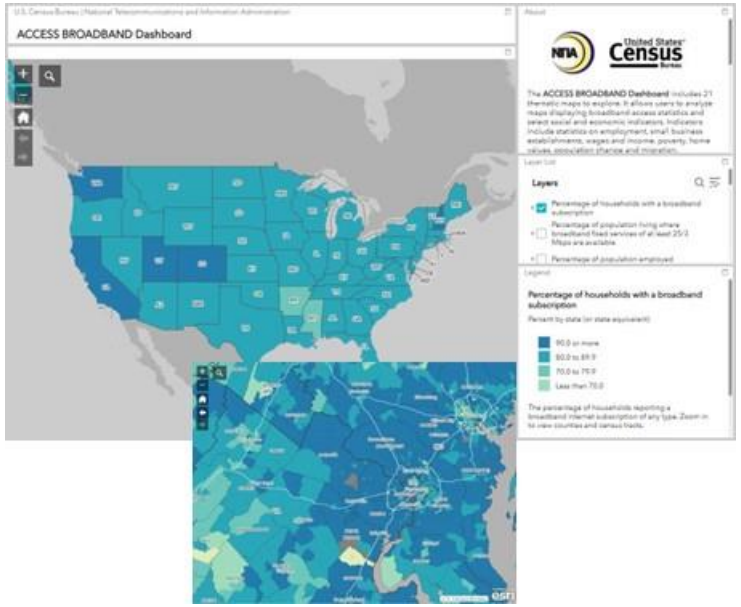
Program Agenda

- Deep Dive Sessions:
  - Safe and Smart Communities
  - Infrastructure / Roadmap to National Digital Twin
  - Space Domain Awareness / EO from Space to Surface
  - The Imperative for Resilient/Precise PNT
  - Healthcare
  - Addressing Climate Change / Achieving Climate Resilience
  - Role of GeoAI in the National Geospatial Strategy
  - Industry Perspectives on GeoAI Strategy, Policy, and Applications

The Power of National Geospatial Infrastructure in Meeting the Needs of the Nation

Key Takeaways / Recommendations

- Focus beyond making data available to applying NSDI to tackle key challenge areas such as climate, health security, digital equity.
- Need to rapidly leverage new technologies
- Improve search and discovery of, user access to growing body of sensor, private sector, and citizen generated data to address national challenges
- Focus on sustainability of geospatial data over time – archival to support science and community decision making
- Evaluate the ability of NGDAs and tools to meet local to national community needs/requirements
- Establish clearer definitions / common language (e.g. Authoritative, trusted)
- Change culture (and policy) to enable data exploration
- Emphasis on shaping the workforce of the future



Key Takeaways / Recommendations – Coordination, Governance, Outreach

- Whole of community approach to national governance
  - Establish rich national collaborative environment (focus on specific problem sets, broadly inclusive, flexible, equitable engagement)
  - Consider open-source model to organically engage different communities and industries in addressing identified challenges
  - Consider best convener(s) for governance
- Emphasis on piloting to test governance approaches as well as solutions to challenges, including evaluation of new technologies and approaches
  - Clearly defined challenges requiring broad collaboration, public and private sector engagement, definition of success, options for scaling successful outcomes.
- Robust marketing / communication approach (value, keyed to community priorities/needs & community terminology)

Take Aways / Recommendations - Industry

GPU processing and Generative AI are becoming front and center to drive automation of real-time and other geospatial data toward useful insights

Value of Foundational AI Models to capture general knowledge for downstream applications, user ability to leverage pre-trained models for specific uses.

The National Geospatial Strategy needs to address GeoAI and the issues of credibility, trustworthiness, provenance of data, bias, ethics, and interoperability, along with cybersecurity risks.

While the industry can provide cutting-edge technology it strongly demands enabling policies, strategies, and standardization to drive progress effectively.

"This is a pivotal time for geospatial in the AI space. Until recently, AI has not been focused on the incredible value of leveraging geospatial."

Nima Negahban
Cofounder and CEO
Kinetica

Take Aways / Recommendations – Industry (2)

- The National Geospatial Strategy should consider ways to tie in with public funding programs to encourage use of National Geospatial Infrastructure assets and capture of geospatial information of value.
- Where government may have limitations due to privacy and other considerations, NGOs and Industry can build on Federal data to develop highly personalized risk information of significant value in raising awareness
- National Geospatial Strategy needs to leverage use cases to illustrate breadth of impact of strategy components, value to community, and illustrate why the strategy is needed.
- Consider P4 (Public-Private-Philanthropic) partnerships going forward. The philanthropic sector can help to fill gaps where government and industry partners have collaborative limitations.
- Consider a National Geospatial Infrastructure focus on advancing unified guidance for agencies on process to achieve Authority To Operate (ATO) for geospatial systems. This would benefit both federal government agencies and industry.

Take Aways / Recommendations – National Geospatial Strategy on the Global Front

GEOGOV SUMMIT

- Alignment of National Geospatial Strategy with the UNGGIM IGIF and GKI has benefits both nationally and internationally
- Support transparency, sharing, and collaboration internationally on borderless challenges
- U.S. capacity development internationally brings benefits back home (PNT, Geodetic Network)
- Promote multi-lateral agreements, advancement of DOS international agreements in areas of civil space, geospatial
- Support Trade & Commerce
- Acknowledge, Incorporate, support National Space Policy, PNT, Cybersecurity
- The 578 Tribes located in the U.S. are domestic sovereign nations - equivalent to international territories. Greater Tribal engagement is needed to assure value and trust to share.

…the United States acknowledges the importance of space to the advancement of all humanity. The United States will lead and strengthen enduring international partnerships to preserve and sustain space for future activity and so that all nations and all people can benefit from space and improve our way of living on Earth and in space.

2020 National Space Policy

GeoGov Summit Alignment with Draft NSDI Goals

DRAFT NSDI Goals and Objectives

- Goal 1— Implement National Governance and Collaboration
- Goal 2— Develop National Geospatial Infrastructure for Decision-Making
- Goal 3— Enhance Education and Awareness
- Goal 4— Evaluate and Enhance the National Geospatial Data Assets Inventory
- Goal 5— Ensure F.A.I.R. Principles Compliance
- Goal 6— Leverage Technological Advancements for Geospatial Data Creation and Tools

* Based on Stakeholder Feedback

How are we going to get there?

Through an NSDI Implementation Plan

- Phase 1 – Data development (never ends)
- Phase 2 – Make data discoverable (stds and protocols)
- Phase 3 – Develop/Mature NSDI search capabilities
- Phase 4 – Make data and metadata machine readable (MapGPT?)
- Phase 5 – Integrate advanced technologies (e.g., AI/ML)
- Phase 6 – National GIS
- Phase 7 – Marketplace (portfolio management)

Note: Phases can be concurrent

Questions / Comments?

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